

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Jeff Kriz
Title: Multi Tier Wireless Communication System

Docket No.: H17016 (256.012US)
Filed: October 1, 1997
Examiner: Kwang B. Yao
Customer No.: 000128

Serial No.: 08/941963
Due Date: October 14, 2003
Group Art Unit: 2664
Confirmation No.: 7591



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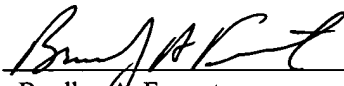
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SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.
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(GENERAL)



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Jeff Kriz)	Examiner: Kwang B. Yao
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Filed: October 1, 1997)	Docket: 256.012US1
)	
For: Multi Tier Wireless)	
Communication System)	

APPELLANTS' BRIEF ON APPEAL

Mail Stop Appeal Brief
Commissioner for Patents
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Sir:

This Appeal Brief is presented in support of the Notice of Appeal filed on August 14, 2003 from the final rejection of claims 1-3, 5-11, 13-17, 26-28, 30-35 and 39 of the above-identified application, as set forth in the Final Office Action mailed June 10, 2003.

The Appeal Brief is filed in triplicate. Please charge the requisite fee of \$330.00 set forth in 37 C.F.R. § 1.17(c) to Deposit Account 19-0743. Please charge any required additional fees or credit overpayment to Deposit Account 19-0743.

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1. REAL PARTY IN INTEREST

The real party in interest, in addition to the above-named Applicant, is Honeywell, Inc., by virtue of an Assignment to Honeywell, Inc., recorded on October 1, 1997, at Reel 8743, Frame 0834-0835. Honeywell, Inc., is a corporation organized and existing under and by virtue of the laws of the State of Delaware, and having an office and place of business at P.O. Box 524, Honeywell Plaza, MN12-8251, Minneapolis, Minnesota 55440.

2. RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences known to Appellant that will have a bearing on the Board's decision in the present appeal.

3. STATUS OF THE CLAIMS

Claims 1-3, 5-11, 13-17, 26-28, 30-35 and 39 are pending in the application and have all been finally rejected. The rejected claims 1-3, 5-11, 13-17, 26-28, 30-35 and 39 are the subject of the present appeal.

4. STATUS OF AMENDMENTS

There are no amendments to the specification and/or claims pending, and none have been presented after the Final Rejection dated June 10, 2003.

5. SUMMARY OF THE INVENTION

The invention defined in the claims on appeal is directed to a two-tier communication system. The system includes a controller 112 that is coupled to a first router 114. The router 114 includes a dual transceiver for communicating over one tier of a wireless network with other similar routers 116, 118, 120 and 122, and over another tier of the wireless network with low power sensing, control and actuator type devices 124, 126, 128, 130, 132, 134, and 136.

The combination of routers and devices shown in Figure 1 comprises a security, control

or monitoring system which can be used in a structure such as a home or business. It can also be applied to process control, where the devices comprise standard home, small business, commercial and industrial sensors, identification tags and actuators such as motion detectors, glass breakage, pressure, temperature, humidity and carbon monoxide sensors, as well as motors and switches that are each equipped with a transceiver. The devices are placed throughout a structure or area to be monitored, protected or controlled. Combinations of security and control can easily be configured for a home or business.

One or more of the devices 124, 126, 128, 130, 132, 134, and 136 may be a mobile asset such that the routers, which are strategically placed within an area, work in conjunction with the controller to monitor the position of the mobile asset(s). The transmission power of such mobile assets is very low such that it is likely that only one router will detect each device. The controller can then track the positions of the mobile assets based on which router is receiving the strongest transmissions.

The routers communicate with each other over a relatively high bandwidth, using unlicensed Industrial Scientific Medical (ISM) band spread spectrum signal processors or transceivers, such as those which operate in the 918 MHz, 2.4 GHz and 5.8 GHz bands of frequencies. The tier of routers provides a high bandwidth communication medium that is regulated by regulatory agencies, but not licensed. The tier of devices operates at low power using low bandwidth by utilizing transceivers that are relatively inexpensive and operate at short range (e.g., 3 to 6 meters). In addition, the transceivers operate at unlicensed frequencies, such as 300 or 433 MHZ, which are also not directly licensed.

Routers are placed strategically within the structure to receive transmissions from proximately located first tier devices. The routers forward the device transmissions (potentially through other routers in the second tier) to the controller. Information and commands from the controller are likewise routed back through the tier of one or more routers to the devices.

A low power device 212 is shown in Figure 2. The device 212 may be a motion detector, glass breakage, pressure, temperature, humidity and carbon monoxide sensor, or an actuator for

control of motors and lights among other functions. The device 212 is coupled to a logic circuit 214 and a low power, low distance transceiver 216 that may be powered by a battery 218, such as a standard 1.5 to 3 volt battery.

A router 310 is shown in Figure 3. Router 310 includes a dual transceiver 312, which receives and transmits on the first tier network at the frequency of transceiver 216 to provide communications to and from multiple devices. The first tier network may use a standard communications protocol, such as a TDMA or carrier sense type of network.

Transceiver 312 also transmits and receives information to and from other routers. A power supply 316 provides much more power than the battery 218 in device 210. Router 310 may also include a higher function device 318 that either requires more power than can easily be provided by battery, or requires higher data throughput which can only be conveniently provided by a router 310.

6. ISSUES PRESENTED FOR REVIEW

1. Whether claim 39 is patentable under 35 USC § 102(e) over Canada et al. (U.S. 5,854,994).
2. Whether claims 1-3 and 10 are patentable under 35 USC § 103(a) over Canada et al. in view of Carvey (U.S. 5,699,357).
3. Whether claims 2, 5-9, 11, 13-17 are patentable under 35 USC § 103(a) over Canada et al. in view of Carvey as applied to claims 1 and 10, and further in view of Velasco (U.S. 5,032,845).
4. Whether claims 26-28 are patentable under 35 USC § 103(a) over Canada et al. in view of Velasco and Parken (U.S. 5,010,583).
5. Whether claims 30-35 are patentable under 35 USC § 103(a) over Canada in view of Parken, Carvey, and Velasco.

7. GROUPING OF CLAIMS

Claims 1, 3 and 5-9 are grouped together. Claims 10, 11 and 13-17 are grouped together. Claims 26-28 are grouped together. Claims 30-35 are grouped together. All other claims are independent of each other, and each stands alone for purposes of this appeal.

8. ARGUMENT**Rejection Under 35 U.S.C. § 102*****1) The Applicable Law***

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *M.P.E.P. '2131*. To anticipate a claim, a reference must disclose every element of the challenged claim and enable one skilled in the art to make the anticipating subject matter. *PPG Industries, Inc. V. Guardian Industries Corp.*, 75 F.3d 1558, 37 USPQ2d 1618 (Fed. Cir. 1996). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

2) Discussion of the Rejection of the Claims Under 35 U.S.C. § 102(e) as being anticipated by Canada et al.

The Examiner rejected claim 39 under 35 USC § 102(b) as being anticipated by Canada et al. (U.S. 5,854,994). As part of the rejection of claim 39, the Examiner states that "Canada et al. discloses an apparatus comprising the following features: a plurality of machine monitors 4 in Fig. 1 for transmitting information using a low power battery and receiving information; a plurality of repeaters 8 for being located proximate to the machine monitors 4 and for wireless communication with other repeaters or monitors using AC power outlet; command station 6 for controlling the repeaters 8 and machine monitors. See column 7, lines 42-52, and column 10, lines 51-56." *Final Office Action*, p. 2, ¶2.

Claim 39 is written in means-plus-function format. As such, it covers the structure described in the specification that performs the function, and equivalent structures. In the current application, the "means for being located proximate to and receiving device information from one or more of the means for transmitting information at a lower power and for wireless communication at a higher power level with other such means for being located proximate to and receiving device information" of claim 39 corresponds in part to the structure described in Applicant's specification at page 7, line 26 through page 8, line 1 as "a device that contains a dual transceiver for communicating over different tiers of a wireless network with other similar router nodes 116, 118, 120 and 122, and with low power sensing, control and actuator type devices comprising first tier nodes shown at 124, 126, 128, 130, 132, 134, and 136."

This is a precise definition that clearly is not the same as the monitors 4 or repeaters 8 in the vibration monitor and transmission system of Canada et al. The monitors 4 and repeaters 8 of Canada et al. are functionally equivalent such that the monitors 4 and repeaters 8 are on a single tier. Applicant respectfully directs the Examiner's to Canada et al. at col. 10, lines 43-50:

"The repeater's transceiver 808 and computer 812 are of the same type as, or are functionally equivalent to, the corresponding components of the machine monitor 4. In the preferred embodiment, the operation of the repeater 8 is "transparent" to the other components of the system, that is, the other components function in the same manner as they would if the repeater 8 were unnecessary and not in the system."

None of the devices disclosed in Canada appear to include a transceiver that transmits and receives at low power with some devices and at higher power with other devices.

Therefore, Applicant can not find in Canada or the Examiner's rejection "a plurality of means for transmitting information at a low power and receiving information" in combination with "a plurality of means for being located proximate to and receiving device information from one or more of the means for transmitting information at a lower power and for wireless communication at a higher power level with other such means for being located proximate to and receiving device information" as recited in claim 39. Since Canada et al. does not show each and

every element, the rejection should be withdrawn.

I. Applicant Comment on Examiner's Response to Arguments

The Examiner states:

"... regarding claim 39, Applicant argues that none of the devices disclosed in Canada appear to include a transceiver that transmits and receives at low power with some devices and at high power with other devices. (Emphasis added). Examiner respectfully disagrees with these arguments. It is noted that the above underlined features upon which applicant relies are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993)." *Final Office Action*, p. 6, ¶8.

Applicant fails to understand the Examiner's purpose for making the statement. As discussed above, claim 39 is written in means-plus-function format. As such, it covers the structure described in the specification that performs the function, and equivalent structures.

Applicant's specification clearly shows that:

- i. the "means for transmitting information at a low power" of claim 39 corresponds to the structure described in the specification at page 4, lines 9-13: "The devices comprise standard home, small business, commercial and industrial sensors, identification tags and actuators such as motion detectors, glass breakage, pressure, temperature, humidity and carbon monoxide sensors, as well as motors and switches controlling automated systems, each equipped with a transceiver." Such devices or sensors are also described as operating in unlicensed frequencies at low power using "a low power, short range, single chip transceiver operating at unlicensed frequencies." See Applicant's specification at page 4, lines 4-5; and
- ii. the "means for being located proximate to and receiving device information from one or more of the means for transmitting information at a lower power and for wireless communication at a higher power level with other such means for being located proximate to and receiving device information" of claim 39 corresponds to the structure described in Applicant's specification at page 7, line 26 through page 8, line 1 as "a device that contains a dual transceiver for communicating over different tiers of a wireless network with other similar router nodes 116, 118, 120 and 122, and with low power sensing, control and actuator type devices comprising first tier nodes shown at 124, 126, 128, 130, 132, 134, and 136."

Applicant respectfully submits that the Examiner has still not made a proper case for anticipation. The Examiner has still not identified any teaching or suggestion in Canada that the monitors 4 or repeaters 8 are a "means for being located proximate to and receiving device information from one or more of the means for transmitting information at a lower power and for wireless communication at a higher power level with other such means for being located proximate to and receiving device information" as recited in claim 39. [Emphasis Added]. Since Canada et al. does not show each and every element, the rejection should be withdrawn.

Rejections Under 35 U.S.C. § 103

1) The Applicable Law

The Examiner has the burden under 35 U.S.C. § 103 to establish a *prima facie* case of obviousness. *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). To do that the Examiner must show that some objective teaching in the prior art or some knowledge generally available to one of ordinary skill in the art would lead an individual to combine the relevant teaching of the references. *Id.*

The court in *Fine* stated that:

Obviousness is tested by "what the combined teaching of the references would have suggested to those of ordinary skill in the art." *In re Keller*, 642 F.2d 413, 425, 208 USPQ 871, 878 (CCPA 1981)). But it "cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination." *ACS Hosp. Sys.*, 732 F.2d at 1577, 221 USPQ at 933. And "teachings of references can be combined *only* if there is some suggestion or incentive to do so."

Id. (emphasis in original).

The M.P.E.P. adopts this line of reasoning, stating that

In order for the Examiner to establish a *prima facie* case of obviousness, three base criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference

teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Appellant's disclosure.

M.P.E.P. § 2142 (citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)).

An invention can be obvious even though the suggestion to combine prior art teachings is not found in a specific reference. *In re Oetiker*, 24 USPQ2d 1443 (Fed. Cir. 1992). At the same time, however, although it is not necessary that the cited references or prior art specifically suggest making the combination, there must be some teaching somewhere which provides the suggestion or motivation to combine prior art teachings and applies that combination to solve the same or similar problem which the claimed invention addresses. One of ordinary skill in the art will be presumed to know of any such teaching. (See, e.g., *In re Nilssen*, 851 F.2d 1401, 1403, 7 USPQ2d 1500, 1502 (Fed. Cir. 1988) and *In re Wood*, 599 F.2d 1032, 1037, 202 USPQ 171, 174 (CCPA 1979)).

The Office Action must provide specific, objective evidence of record for a finding of a suggestion or motivation to combine reference teachings and must explain the reasoning by which the evidence is deemed to support such a finding. *In re Sang Su Lee*, 277 F.3d 1338, 61 U.S.P.Q.2d 1430 (Fed. Cir. 2002). Mere conclusory statements are unsatisfactory.

“With respect to Lee’s application, neither the examiner nor the Board adequately supported the selection and combination of the Nortrup and Thunderchopper references to render obvious that which Lee described. The examiner’s conclusory statements that ‘the demonstration mode is just a programmable feature which can be used in many different devices for providing automatic introduction by adding the proper programming software’ and that ‘another motivation would be that the automatic demonstration mode is user friendly and it functions as tutorial’ do not adequately address the issue of motivation to combine. This factual question of motivation is material to patentability, and could not be resolved on subjective belief and unknown authority. It is improper, in determining whether a person of ordinary skill in the art would have been lead to this combination of references, simply to use ‘[use] that which the inventor taught against its teacher.’ *W.L. Gore V. Garlock, Inc.*, 721 F. 2d 1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983).”

Lee, at 1343, 1344.

The test for obviousness under § 103 must take into consideration the invention as a whole; that is, one must consider the particular problem solved by the combination of elements that define the invention. *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1143, 227 USPQ 543, 551 (Fed. Cir. 1985). Furthermore, claims must be interpreted in light of the specification, claim language, other claims and prosecution history. *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1568, 1 USPQ2d 1593, 1597 (Fed. Cir. 1987), *cert. denied*, 481 U.S. 1052 (1987). At the same time, a prior patent cited as a § 103 reference must be considered in its entirety, "*i.e.* as a whole, including portions that lead away from the invention." *Id.* That is, the Examiner must, as one of the inquiries pertinent to any obviousness inquiry under 35 U.S.C. § 103, recognize and consider not only the similarities but also the critical differences between the claimed invention and the prior art. *In re Bond*, 910 F.2d 831, 834, 15 USPQ2d 1566, 1568 (Fed. Cir. 1990), *reh'g denied*, 1990 U.S. App. LEXIS 19971 (Fed. Cir. 1990). Finally, the Examiner must avoid hindsight. *Id.*

2) *Discussion of the Rejection of claims 1-3 and 10 under 35 U.S.C. § 103(a) as being unpatentable over Canada et al. in view of Carvey (U.S. 5,699,357)*

Claims 1-3 and 10 were rejected under 35 USC § 103(a) as being unpatentable over Canada et al. in view of Carvey (U.S. 5,699,357). A *prima facie* case of obviousness has not been established for at least the following reasons: The combination of Canada et al. and Carvey do not teach or suggest each and every element of the claimed invention, and there is no suggestion to combine them.

I. Canada et al. and Carvey do not teach every element of claims 1-3 and 10

In order to establish a *prima facie* case of obviousness, the references must teach or suggest all the claim elements. See M.P.E.P. § 2142 and *In re Vaeck*, 947 F.2d 488, 20 USPQ2d

1438 (Fed.Cir. 1991). The present invention uses low power devices in combination with routers that operate with the low power devices and other high power routers to allow the low power devices to be located further from a controller.

As mentioned above, Canada is directed to a vibration monitor and transmission system that sends and receives signals from one or monitors 4 through one or more functionally equivalent repeaters 8 along a single tier. Carvey is directed to a personal digital assistant (PDA) that communicates with a number of close proximity personal electronic accessories (PEAs) (see Carvey abstract; col. 1, lines 4-8 and 54; and col. 2 lines 17-30). Carvey is similar to Canada in it does not teach or suggest a router node that operates at a low power level with low power devices and at a high power level with other routers.

Therefore, Applicant can not find Canada and/or Carvey “a plurality of devices, each device coupled to a low power transceiver that transmits over a short range” in combination with “a plurality of router nodes, each router node having a transceiver capable of receiving device information from one or more proximate wireless devices and capable of wireless communication at a higher power level with other router nodes” as recited in claim 1 and corresponding dependent claim 3.

In addition, the combination of Canada and Carvey does not disclose “a plurality of devices, each device having a low power battery operated transceiver that communicates information over a short range” in combination with “a router having a transceiver that receives communications from at least one selected device and transmits further communications via a higher power transceiver to other routers” as recited in claim 10. Since the cited combination does not teach or suggest each and every element, the rejection should be withdrawn.

II. There is no motivation or suggestion to combine Canada et al. and Carvey

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant’s disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991); MPEP § 2143.

Canada et al. describe a vibration monitor and transmission system (see Abstract) that sends and receives signals from one or monitors 4 through one or more repeaters 8 that are functionally equivalent to the monitors 4. Carvey requires in the Summary that: "The data network of the present invention utilizes the fact that the server microcomputer unit and the several peripheral units which are to be linked are all in close physical proximity, e.g., under two meters separation, to establish, with very high accuracy, a common time base or synchronization." In other words, Carvey expressly teaches away from any sort of combination of repeaters 8 that are similar to the ones used in Canada et al. because the devices in Carvey must be in close physical proximity. Thus, there is no suggestion to combine Carvey et al. and Canada et al.

Applicant also respectfully submits that the Examiner has only provided a mere conclusory statement regarding a motivation to combine Canada and Carvey. The Examiner states at page 3, ¶4 of the Office Action, "[i]t would have been obvious to one of the ordinary skill in the art at the time of the invention to use the features, as taught by Carvey, in the system of Canada et al., in order to provide various applications, see column 2, lines 2-13."

The Office Action must provide specific, objective evidence of record for a finding of a suggestion or motivation to combine reference teachings and must explain the reasoning by which the evidence is deemed to support such a finding. *In re Sang Su Lee*, 277 F.3d 1338, 61 U.S.P.Q.2d 1430 (Fed. Cir. 2002). Mere conclusory statements are unsatisfactory.

"With respect to Lee's application, neither the examiner nor the Board adequately supported the selection and combination of the Nortrup and Thunderchopper references to render obvious that which Lee described. The examiner's conclusory statements that 'the demonstration mode is just a programmable feature which can be used in many different devices for providing automatic introduction by adding the proper programming software' and that 'another motivation would be that the automatic demonstration mode is user friendly and it functions as tutorial' do not adequately address the issue of motivation to combine. This factual question of motivation is material to patentability, and could not be resolved on subjective belief and unknown authority. It is improper, in determining whether a person of ordinary skill in the art would have been lead to this combination of references, simply to use '[use] that which the inventor taught against its teacher.' *W.L. Gore*

V. Garlock, Inc., 721 F.2d 1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983).”
Lee, at 1343, 1344.

Applicant can not see where column 2, lines 2-13 of Carvey provide a motivation to use the data network of Carvey in the vibration monitoring system of Canada et al. The Examiner’s statement is analogous to the conclusory statements made by the Examiner and Board in the *In re Lee* case.

A factor cutting against a finding of motivation to combine or modify the prior art is when the prior art teaches away from the claimed combination. A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path the applicant took. *In re Gurley*, 27 F.3d 551, 31 USPQ 2d 1130, 1131 (Fed. Cir. 1994); *United States v. Adams*, 383 U.S. 39, 52, 148 USPQ 479, 484 (1966); *In re Sponnoble*, 405 F.2d 578, 587, 160 USPQ 237, 244 (C.C.P.A. 1969); *In re Caldwell*, 319 F.2d 254, 256, 138 USPQ 243, 245 (C.C.P.A. 1963).

Applicant respectfully submits that Canada and Carvey teach away from one another because Applicant can not see how the systems disclosed Canada and Carvey could be physically and/or operationally combined to produce the systems of claims 1 and 10. Since there is no motivation or suggestion to combine the cited references, the rejection should be withdrawn.

III. Applicant Comment on Examiner’s Response to Arguments

The Examiner states:

“ . . . regarding claims 1, 3, 10, Applicant argues that Carvey and Canada do not teach or suggest a router node that operates at a low power level with low power devices and at a high power level with other routers. Examiner respectfully disagrees with these arguments. It is noted that the above underlined features upon which applicant relies are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).” *Final Office Action*, p. 6-7, ¶8.

Applicant respectfully traverses the assertion. Applicant's argument in the Response filed April 3, 2003, and reiterated in this Appeal brief, is that Applicant can not find in Canada and/or Carvey "a plurality of devices, each device coupled to a low power transceiver that transmits over a short range" in combination with "a plurality of router nodes, each router node having a transceiver capable of receiving device information from one or more proximate wireless devices and capable of wireless communication at a higher power level with other router nodes" as recited in claim 1 and corresponding dependent claim 3. Applicant further respectfully submits that the Examiner has not pointed out with particularity where these elements are found in Canada and/or Carvey.

The Examiner also states:

"... Canada et al. discloses an apparatus comprising the following features: a plurality of machine monitors 4 in Fig. 1 for transmitting information using a low power battery and receiving information; a plurality of repeaters 8 for being located proximate to the machine monitors 4 and for wireless communication with other repeaters or monitors using AC power outlet; command station 6 for controlling the repeaters 8 and machine monitors. See column 7, lines 42-52, and column 10, lines 51-56. Canada et al. does not disclose the claimed features of: at least one of the devices is selected from the group consisting of sensors, actuators, and controllers. Carvey discloses a personal data network comprising the following features: PEAs 21, ..., 29 being selected from the group of sensors, actuators, controllers. Therefore, it is maintained that the combined reference of Canada et al. and Carvey would have been obvious to arrive the limitations in claims 3 and 10." *Final Office Action*, p. 7, ¶8.

Applicant respectfully submits that the Examiner's comments do not supplement anything that was already argued by the Examiner in Office Action mailed January 2, 2003. Therefore, Applicant respectfully reiterates that Canada and/or Carvey do not teach or suggest "a plurality of devices, each device having a low power battery operated transceiver that communicates information over a short range" in combination with "a router having a transceiver that receives communications from at least one selected device and transmits further communications via a higher power transceiver to other routers" as recited in claim 10. Since the cited combination does not teach or suggest each and every element, the rejection should be

withdrawn.

The Examiner further states:

“... the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the motivation is found at column 2, lines 2-13 of Carvey (US 5,699,357).” *Final Office Action*, p. 7-8, ¶9.

Applicant respectfully traverses the assertion that Carvey, at column, lines 2-13, provides motivation for any type of combination with Canada. The text in Carvey cited by the Examiner refers to using PEA's to monitor physiological conditions. There is no teaching or suggestion relating to vibration monitoring as described in Canada. Therefore, Applicant can not see how one of ordinary skill in the art would look from the vibration monitoring system disclosed in Canada to the PEA's for physiological use described in Carvey. Thus, there is no suggestion to combine Carvey et al. and Canada et al.

3) *Discussion of the Rejection of claims 2, 5-9, 11, and 13-17 under 35 U.S.C. § 103(a) as being unpatentable over Canada et al. in view of Carvey as applied to claims 1 and 10 above, and further in view of Velasco (US 5,032,845)*

Claims 2, 5-9, 11, and 13-17 were rejected under 35 USC § 103(a) as being unpatentable over Canada et al. in view of Carvey as applied to claims 1 and 10 above, and further in view of Velasco (US 5,032,845). A *prima facie* case of obviousness has not been established for at least the following reasons: The combination of Canada, Carvey and Velasco does not teach or suggest each and every element of the claimed invention, and there is no suggestion to combine them.

I. Canada, Carvey and Velasco do not teach every element of claims 2, 5-9, 11 and 13-17

As mentioned above, (i) Canada et al. disclose a vibration monitor and transmission system that includes functionally equivalent monitors 4 and repeaters 8 which transceive with one another along a single tier; and (ii) Carvey discloses a PDA that communicates with a number of close proximity personal electronic accessories.

Velasco discloses a vehicle operating system that sends VHF and UHF signals between cars 11-13, local masters 21, repeaters 22 and a central master 24. Applicant can not find in Velasco that any of the disclosed devices transceive at low power with low power devices and at higher power with other routers. Therefore, even if Canada, Carvey and Velasco are combined, the combination does not teach or suggest:

- i. “a plurality of devices, each device coupled to a low power transceiver that transmits over a short range, and receives information, wherein at least one of the devices is selected from the group consisting of sensors, actuators, and controllers” in combination with “a plurality of router nodes, each router node having a transceiver capable of receiving device information from one or more proximate wireless devices and capable of wireless communication at a higher power level with other router nodes” as recited in claim 1 and corresponding dependent claims 2 and 5-9; and
- ii. “a plurality of devices, each device having a low power battery operated transceiver that communicates information over a short range, provided by the device, wherein at least one of the devices is selected from the group consisting of sensors, actuators, and controllers” in combination with “a router having a transceiver that receives communications from at least one selected device and transmits further communications via a higher power transceiver to other routers” as recited in claim 10 and corresponding dependent claims 11 and 13-17.

Since the cited combination does not teach or suggest each and every element, the rejection should be withdrawn.

II. There is no motivation or suggestion to combine Canada, Carvey and Velasco

The Examiner has only provided a mere conclusory statement regarding a motivation to combine Canada, Carvey and Velasco. The Examiner states, “[i]t would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of Canada et

al. and Carvey, by using the features, as taught by Velasco, in order to provide an efficient data transmission system.” *Final Office Action*, p. 4, ¶5. The Examiner’s statement is again analogous to the conclusory statements made by the Examiner and Board in *In re Lee*.

The Examiner’s statement also fails to explain how Velasco could be combined with Canada and Carvey. Applicant can not see how the PDA disclosed in Carvey (which needs to be in close proximity to a number of personal electronic accessories to operate) could be incorporated into a vehicle location system that sends VHF and UHF signals over several miles between stations as disclosed in Velasco. If a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984); MPEP 2143.01.

Applicant also respectfully submits that Canada, Carvey and Velasco teach away from one another because even if Velasco and Carvey could somehow be combined, applicant can not see how the resulting device (which would deliver UHF and VHF signals over several miles as disclosed in Velasco) could be incorporated into the vibration monitoring and transmission system of Canada. Since there is no motivation or suggestion to combine the cited references, the rejection should be withdrawn.

III. Applicant Comment on Examiner’s Response to Arguments

The Examiner states that “. . . Applicant argues that he/she cannot find in Velasco that any of these devices transceive at low power devices and at higher power with other routers. (Emphasis added). Examiner respectfully disagrees with there arguments. It is noted that the above underlined features upon which applicant relies are not recited in the rejected claim(s).” *Final Office Action*, p. 8, ¶9.

Applicant respectfully traverses the assertion. Applicant’s argument in the Response filed April 3, 2003, and reiterated in this Appeal brief, is that Applicant can not find in Canada, Carvey and/or Velasco:

- i. "a plurality of devices, each device coupled to a low power transceiver that transmits over a short range, and receives information, wherein at least one of the devices is selected from the group consisting of sensors, actuators, and controllers" in combination with "a plurality of router nodes, each router node having a transceiver capable of receiving device information from one or more proximate wireless devices and capable of wireless communication at a higher power level with other router nodes" as recited in claim 1 and corresponding dependent claims 2 and 5-9; and
- iii. "a plurality of devices, each device having a low power battery operated transceiver that communicates information over a short range, provided by the device, wherein at least one of the devices is selected from the group consisting of sensors, actuators, and controllers" in combination with "a router having a transceiver that receives communications from at least one selected device and transmits further communications via a higher power transceiver to other routers" as recited in claim 10 and corresponding dependent claims 11 and 13-17.

Applicant further respectfully submits that the Examiner has not pointed out with particularity where these elements are found in Canada, Carvey and/or Velasco.

4) *Discussion of the Rejection of Claims 26-28 under 35 U.S.C. § 103(a) as being unpatentable over Canada et al. in view of Velasco and Parken (U.S. 5,010,583)*

Claims 26-28 were rejected under 35 USC § 103(a) as being unpatentable over Canada et al. (U.S.5,854,995) in view of Velasco (US 5,032,845) and Parken (US 5,010,583). A *prima facie* case of obviousness has not been established for at least the following reasons: The combination of Canada, Velasco and Parken do not teach or suggest each and every element of the claimed invention, and there is no suggestion to combine them.

I. Canada, Velasco and Parken do not teach every element of claims 26-28

The Examiner states at page 4 of the Final Office Action that "Canada et al. discloses . . . a repeater 8a in Fig. 1 (claimed second router node) for receiving low power transmission from a plurality of machine monitors 4, and receiving and transmitting high power transmission to and from another repeater or command station 6."

Applicant respectfully traverses this assertion because Canada et al. disclose repeaters 8 that are functionally equivalent to monitors 4 such that the repeaters 8 and monitors 4 transmit and receive on a single tier.

Velasco discloses a vehicle location system that sends VHF and UHF signals between cars 11-13, local masters 21, repeaters 22 and a central master 24. Parken is directed to a portable or mobile communication unit 130 that includes a wide area coverage multiple repeater system. Parken is similar to Canada and Velasco in that Parken does not teach or suggest a router that sends and receives high power transmissions with other routers and low power transmissions with other devices. The only disclosure in Parken related to power levels is at column 2, line 67 through column 3, line 1 which describes monitoring the received signal strength in a cellular network.

Therefore, even if Canada, Velasco and Parken are combined, applicant can not find “a second router node having a first receiver for receiving low power transmissions of physical condition related information from a plurality of devices located proximate the second router node, a second receiver for receiving high bandwidth transmissions from other routers in the system, and a first transmitter coupled to the first and second receivers that transmits information from the plurality of devices at a relatively high power to the first router node” as recited in claim 26 and corresponding dependent claims 27-28. Since the cited combination does not teach or suggest each and every element, the rejection should be withdrawn.

II. There is no motivation or suggestion to combine Canada, Velasco and Parken

The Examiner has only provided a mere conclusory statement regarding a motivation to combine Canada, Velasco and Parken. The Examiner states “[i]t would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of Canada by using the features, as taught by Velasco and Parken, in order to reduce the possibilities of transmission collisions. See column 1, lines 20-22.” *Final Office Action*, p. 4-5, ¶6.

Applicant can not see where the description in Canada of a vibration monitor and

transmission system provides any motivation to use the mobile communication unit of Parken. In addition, applicant can not find any disclosure in Parken (including column 1, lines 20-22) that would lead one of ordinary skill in the art to place such a repeater system in the vibration monitor and transmission system of Canada. The Examiner's statement is again analogous to the conclusory statements made by the Examiner and Board in the *In re Lee* case.

Applicant also respectfully submits that Canada, Velasco and Parken teach away from one another because Applicant can not see how the Parken repeater system could be physically and/or operationally placed in the Canada transmission system, especially to produce a system that includes a router node which transceives at high power with other router nodes and at low power with other devices as recited in claim 26. Since there is no motivation or suggestion to combine the cited references, the rejection should be withdrawn.

III. Applicant Comment on Examiner's Response to Arguments

The Examiner states:

"... regarding claims 26-28, Applicant argues that the cited references do not teach or suggest a router that sends and receives high power transmission with other routers and **low power transmission with other devices**. (Emphasis added). Examiner respectfully disagrees with their arguments. It is noted that the above underlined features upon which applicant relies are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993)." *Final Office Action*, p. 8-9, ¶9.

Applicant respectfully traverses the assertion. Applicant's argument in the Response filed April 3, 2003, and reiterated in this Appeal brief, is that Applicant can not find in Canada, Velasco and/or Parken, especially in the areas cited by the Examiner, "a second router node having a first receiver for receiving low power transmissions of physical condition related information from a plurality of devices located proximate the second router node, a second receiver for receiving high bandwidth transmissions from other routers in the system, and a first

transmitter coupled to the first and second receivers that transmits information from the plurality of devices at a relatively high power to the first router node” as recited in claim 26 and corresponding dependent claims 27-28.

Applicant notes that the Examiner acknowledges that “Canada et al. does not disclose the claimed features of: receiving high bandwidth information from other repeaters or command station; a first receiver, a second receiver and a first transmitter.” *Final Office Action*, p. 9, ¶9.

5) *Discussion of the Rejection of Claims 30-35 under 35 U.S.C. § 103(a) as being unpatentable over Canada et al. in view of Parken, Carvey and Velasco*

Claims 30-35 were rejected under 35 USC § 103(a) as being unpatentable over Canada et al. (U.S.5,854,995) in view of Parken (US 5,010,583), Carvey (US 6,128,290), and Velasco (US 5,032,845). A *prima facie* case of obviousness has not been established for at least the following reasons: The combination of Canada, Parken, Carvey and Velasco does not teach or suggest each and every element of the claimed invention, and there is no suggestion to combine them.

I. Canada, Parken, Carvey and Velasco do not teach every element of claims 30-35

Applicant initially notes with respect that the Examiner is combining four references to maintain the rejection. As discussed above, (i) Canada is directed to a vibration monitor and transmission system that sends and receives signals from one or monitors 4 through one or more functionally equivalent repeaters 8 along a single tier; (ii) Parken is directed to a portable or mobile communication unit 130 that includes a wide area coverage multiple repeater system; (iii) Carvey is directed to a PDA that communicates with a number of close proximity personal electronic accessories; and (iv) Velasco is directed to vehicle locating system that sends VHF and UHF signals between cars, local masters, repeaters and a central master. Parken, Carvey and Velasco are similar to Canada in that they do not teach or suggest a router node that transceives low power transmissions with a plurality of devices and high bandwidth transmissions with other routers.

Therefore, applicant can not find in the cited combination a router node that includes “a first transceiver that receives low power transmissions of information from a plurality of devices located proximate the router node” in combination with “a second transceiver that receives high bandwidth transmissions from other routers in the system, wherein the second transceiver further transmits information from the plurality of devices at a higher power level than the received low power transmissions” as recited in claim 30 and corresponding dependent claims 31-35. Since the cited combination does not teach or suggest each and every element, the rejection should be withdrawn.

II. There is no motivation or suggestion to combine Canada, Parken, Carvey and Velasco

The Examiner acknowledges that Canada does not teach or suggest all of the elements in claims 30-35 by stating “Canada et al. disclose only one transceiver 808 in Fig. 7 for the repeater, rather than the claimed two transceivers. Moreover, Canada et al. does not disclose the claimed features of: at least one of the devices is selected from the group consisting of sensors, actuators, and controllers, and high bandwidth transmission.” *Final Office Action*, p. 5, ¶7.

The Examiner attempts to overcome the deficiencies of Canada by combining Canada with Parken, Carvey and Velasco. According to the Office Action “[i]t would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of Canada et al., by using the features, as taught by Parken, Carvey and Velasco, in order to provide an efficient data transmission system.” *Final Office Action*, p. 5-6, ¶7.

Applicant traverses the assertion and respectfully submits that each of cited references teach away from one another to some degree because Applicant can not see how the vibration monitor and transmission system of Canada would be modified to include the (i) mobile communication unit of Parken; (ii) PDA and close proximity personal electronic accessories of Carvey; **AND** (iii) vehicle location system of Velasco. In addition, Applicant respectfully submits that the Examiner’s statement regarding a motivation to combine Canada with Parken, Carvey and Velasco is conclusory because the Examiner’s statement is again analogous to the

conclusory statements made by the Examiner and Board in the *In re Lee* case.

III. Applicant Comment on Examiner's Response to Arguments

The Examiner states:

"... regarding claims 30-35, Applicant argues that the combined reference do not teach or suggest a router node that **transceives low power transmission with a plurality of devices** and high bandwidth transmissions with other routers. (Emphasis added). Examiner respectfully disagrees with these arguments. It is noted that the above underlined features upon which applicant relies are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993)." *Final Office Action*, p. 10, ¶9.

Applicant respectfully traverses the assertion. Applicant's argument in the Response filed April 3, 2003, and reiterated in this Appeal brief, is that Applicant can not find in Canada, Parken, Carvey and/or Velasco a router node that includes "a first transceiver that receives low power transmissions of information from a plurality of devices located proximate the router node" in combination with "a second transceiver that receives high bandwidth transmissions from other routers in the system, wherein the second transceiver further transmits information from the plurality of devices at a higher power level than the received low power transmissions" as recited in claim 30 and corresponding dependent claims 31-35. Applicant further respectfully submits that the Examiner has not pointed out with particularity where these elements are found in Canada, Parken, Carvey and/or Velasco.

Applicant notes that the Examiner acknowledges that "Canada et al. disclose only one transceiver 808 in Fig. 7 for the repeater, rather than the claimed two transceivers. Moreover, Canada et al. does not disclose the claimed features of: at least one of the devices is selected from the group consisting of sensors, actuators, and controllers, and high bandwidth transmission." *Final Office Action*, p. 11, ¶9.

APPEAL BRIEF

Serial No.: 08/941963

Filed: October 1, 1997

Title: Multi Tier Wireless Communication System

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9. CONCLUSION

Applicant believes the claims are in condition for allowance and requests withdrawal of the rejections to claims 1-3, 5-11, 13-17, 26-28, 30-35 and 39. Reversal of the Examiner's rejections of claims 1-3, 5-11, 13-17, 26-28, 30-35 and 39 in this appeal is respectfully requested.

Respectfully submitted,

JEFF KRIZ

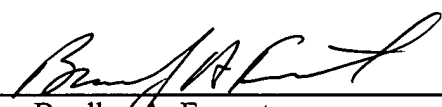
By his Representatives,

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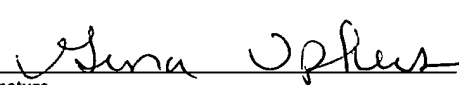
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Name Gina M. Uphus

Signature 

APPENDIX I

The Claims on Appeal

1. A system comprising:
 - a plurality of devices, each device coupled to a low power transceiver that transmits over a short range, and receives information, wherein at least one of the devices is selected from the group consisting of sensors, actuators, and controllers;
 - a plurality of router nodes, each router node having a transceiver capable of receiving device information from one or more proximate wireless devices and capable of wireless communication at a higher power level with other router nodes; and
 - a controller coupled to at least one router node for receiving device information, wherein the router nodes transmit device information either to the controller or to another router for further transmission of the device information.
2. The system of claim 1 wherein the low power transceiver has a lower data bandwidth capability than the bandwidth of the communication between router nodes at the higher power level.
3. The system of claim 1 wherein at least one of the devices further comprise a battery for supplying power to the low power transceiver.
5. The system of claim 1 wherein one of the routers is hardwired to a device which generates high bandwidth information.
6. The system of claim 1 wherein the controller is coupled between a telephone wiring network in a structure and external telephone lines.

7. The system of claim 6 and wherein the controller is capable of intercepting touch tones transmitted on the telephone wiring network in the structure and interpreting them as controller commands.

8. The system of claim 7 wherein the controller transmits information via the routers to devices in accordance with the touch tone commands.

9. The system of claim 1 wherein the controller further comprises circuitry to receive transmissions representative of controller commands from a wireless telephone.

10. A monitoring system comprising:

a plurality of devices, each device having a low power battery operated transceiver that communicates information over a short range, provided by the device, wherein at least one of the devices is selected from the group consisting of sensors, actuators, and controllers;

a router having a transceiver that receives communications from at least one selected device and transmits further communications via a higher power transceiver to other routers; and

a controller communicatively coupled to a router.

11. The system of claim 10 wherein the low power transceiver has a lower data bandwidth capability than the bandwidth of the communication between routers.

13. The system of claim 10 wherein one of the routers is hardwired to a device which generates high bandwidth information.

14. The system of claim 10 wherein the controller is coupled between a telephone wiring network in a structure and external telephone lines.

15. The system of claim 14 and wherein the controller is capable of intercepting touch tones transmitted on the telephone wiring network in the structure and interpreting them as controller commands.

16. The system of claim 15 wherein the controller transmits information via the routers to the device in accordance with the touch tone commands.

17. The system of claim 10 wherein the controller further comprises circuitry to receive transmissions representative of controller commands from a wireless telephone.

26. A network of router nodes communicatively coupled to a central controller of a security monitoring system, the network comprising:

a first router node hardwired into the central controller;

a second router node having a first receiver for receiving low power transmissions of physical condition related information from a plurality of devices located proximate the second router node, a second receiver for receiving high bandwidth transmissions from other routers in the system, and a first transmitter coupled to the first and second receivers that transmits information from the plurality of devices at a relatively high power to the first router node.

27. The network of claim 26 and further comprising a plurality of further router nodes located proximate to a further plurality of devices transmitting at low power.

28. The network of claim 27 wherein at least some of the plurality of further router nodes transmit information from the proximate devices to the first router node.

30. A router node in a physical condition monitoring system, the router node comprising:
a first transceiver that receives low power transmissions of information from a plurality of devices located proximate the router node, wherein at least one of the devices is selected from the group consisting of sensors, actuators, and controllers; and
a second transceiver that receives high bandwidth transmissions from other routers in the system, wherein the second transceiver further transmits information from the plurality of devices at a higher power level than the received low power transmissions.
31. The router node of claim 30 wherein the second transceiver operates at an unlicensed spread spectrum frequency range.
32. The router node of claim 31 wherein the frequency range is selected from the group consisting of 900 MHZ, 2.4 GHz, and 5.8 GHz.
33. The router node of claim 30 and further comprising a device which is hardwired directly to the router node for direct communication of high bandwidth information.
34. The router node of claim 33, wherein the hardwired device comprises a video camera.
35. The router node of claim 34, wherein the router node transmits high bandwidth compressed video to other routers at the higher power level.

39. A system comprising:

a plurality of means for transmitting information at a low power and receiving information;

a plurality of means for being located proximate to and receiving device information from one or more of the means for transmitting information at a lower power and for wireless communication at a higher power level with other such means for being located proximate to and receiving device information; and

means for controlling the plurality of means for being located proximate to and receiving device information.



APPELLANTS' BRIEF ON APPEAL

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